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THE EFFECT OF CROSSWORD PUZZLE MEDIA ON STUDENTS' LEARNING OUTCOMES IN PLANT BODY PARTS MATERIAL IN GRADE IV OF SDN 1 LAMBHEU ACEH BESAR

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ABSTRACT

In student learning that only focuses on completing material and memorizing concepts, students cannot develop their thinking patterns, this is because teachers have not been optimal in applying media during the learning process, the media used is still monotonous and does not attract students to understand the subject matter, so this has an impact. on the learning outcomes obtained by students. Where the learning outcomes obtained by students do not reach the Minimum Learning Criteria (KBM). The formulation of the problem in this research is "Is there an influence of crossword puzzle media on student learning outcomes in plant body parts material for class IV State Elementay School 1 Lambheu Aceh Besar?". This research aims to determine the effect of crossword puzzle media on student learning outcomes in plant body parts material for class IV State Elementay School 1 Lambheu Aceh Besar. The approach used in this research is a quantitative approach, the type of research is Quasi Experimental with a Pretest Posttest Control Group Design. This research was conducted in class IV of State Elementay School 1 Lambheu Aceh Besar which is located on Jalan Krueng Daroy Utama Perumnas Lambheu, Darul Imarah District, Aceh Besar Regency. This research used two sample classes, namely the experimental group and the control group with 26 IVA students as the control class and 28 IVB students as the experimental class. The instrument used in this research was a multiple choice test with 10 questions. The average results of quantitative data analysis show that student learning outcomes in the pretest were 43,9 and posttest 81,4.The data collection technique uses tests in the form of Pretest and Posttest, while the data analysis technique uses SPSS Statistics 22 and hypothesis testing uses the Independent Sample T-Test. The results of hypothesis testing with Independent Sample T-Test statistics obtained a significance value (2-tailed) of 0.000 < 0.05. So the decision making criteria are Ha accepted and Ho rejected. Thus, it can be concluded that there is a significant influence of the use of *Crossword Puzzle* media on student learning outcomes in class IV plant body parts material at State Elementay School 1 Lambheu Aceh Besar.

***Keywords**: Crossword Puzzle*, Learning results, Plant body parts.

INTRODUCTION

Education is one of the important needs for everyone's life, therefore education can be said to be a primary need in this era of globalization. According to Law Number 20 of 2003 Article 1 explains that education can be interpreted as a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have spiritual religious strength, self-control, personality, intelligence, noble morals, and skills needed by themselves, society, nation and state. From this explanation it can be seen that education is something that greatly influences the progress of a nation (Ahadin et al., 2024)**.**

Education will not be separated from the teaching and learning process. The teaching and learning process occurs because of the interaction between a person and his environment. The interaction that occurs during the learning process will be more influenced by educators, students, learning materials, learning resources and learning media, facilities and

infrastructure, and the management of the educational institution. (Widiastuti & Sagoro, 2017)

Teachers have a major role in their involvement in the scope of the teaching and learning process, because progress and improvement depend on the performance of teachers to provide direction and guidance to students. This is the main factor because there must be breakthroughs and new innovations so that a teacher is able to realize the desired goals and achievements to advance education through creative and effective ideas and concepts. (Alam, 2024)

One of the efforts that teachers can make to overcome student boredom so that they can be enthusiastic and actively involved in learning activities is by planning and using interesting media. (Khairunnisa, 2017) A professional teacher will know how to approach, direct, and serve the needs of students who have different characters. Therefore, he must be able to choose and apply the right learning media to improve learning outcomes. According to (Bahri et al., 2020) Learning media is a tool that can be used as a message channel to achieve learning objectives. The use of learning media can make it easier for teachers to deliver material by implementing active learning in the classroom.

In learning, teachers must have a sense of ownership that can be created by a caring teacher, which is the most important factor in encouraging the tenacity of students who have different backgrounds.(Alam et al., 2023)

Learning outcomes are the results given to students in the form of assessments after following the learning process by assessing knowledge, attitudes, and skills in students with changes in behavior. According to (Sudjana, 2017) Learning outcomes are the abilities possessed by students after receiving their learning experiences. The achievement of the process can be assessed from the selection of learning models used. In order for students to receive and understand the material given, it is very important to use strategies, models, learning media that can be active, imaginative, creative, and fun during the learning process (Fisher, 2022)

According to (Munir, 2005) Crossword Puzzle media is a media in the form of a rectangle consisting of black and white boxes, and is equipped with 2 paths, namely horizontal (a collection of boxes in the form of one row of several columns) and down (a collection of boxes in the form of one column of several rows. Crossword Puzzle media is a strategy where students must fill in the empty boxes with letters that form a word that is interconnected with each other according to the instructions and statements given (Khalilullah, 2012). Instructions and statements are usually divided into “horizontal” and “descending” categories. Crossword Puzzle is a media that can make the classroom atmosphere fun, so that students do not find it difficult to understand and remember the material being taught (Silberman, 2007).

Based on the results of initial observations, the author found that in class IV of SD Negeri 1 Lambheu Aceh Besar that there was a problem, namely that students still did not understand the material being presented. Due to the mindset of students who only focus on completing the material and memorizing concepts, students cannot develop their mindset properly. Teachers are also less skilled in enlivening the class atmosphere and do not involve students too much in the learning process. This is because teachers are not optimal in applying media during the learning process. because the facilities at school are not very supportive for use by teachers, especially in science lessons during the learning process where the media used is still monotonous, and does not attract students to understand the subject matter, where the

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media used are pictures, student books and objects around them. The solution is to apply innovative learning media that can make it easier for students to understand the learning material. One learning media that can overcome this problem is the Crossword Puzzle media, which places students as an active part in the learning process, with the aim of sharpening memory, developing analytical skills, increasing vocabulary, providing a fun and entertaining learning class. Therefore, "Researchers will take one title to research, namely: The Influence of Crossword Puzzle Media on Student Learning Outcomes in Plant Body Parts Material for Class IV SD Negeri 1 Lambheu Aceh Besar."

RESEARCH METHODS

This research uses a quantitative approach. The type of research used is Quasi Experimental Design with a non-equivalent control group design. The research location is SDN 1 Lambheu Aceh Besar. The population of this study was all fourth grade students at SDN 1 Lambheu Aceh Besar. The sample in this study was 28 class IVB students consisting of 13 men and 15 women as the experimental class and 26 class IVA students consisting of 12 men and 14 women as the control class.

The instrument used in this research is a test instrument consisting of 10 multiple choice questions, while the data collection technique in this research is a test carried out in experimental and control classes, with each class given the same pretest and posttest questions. Data analysis techniques through Normality Test, Homogeneity Test, and Hypothesis Test. In this research, hypothesis analysis uses an independent sample t-test (t test) assisted by the SPSS 22 program.

RESULTS AND DISCUSSION

Research Result Data

The data in this research were obtained from the results of the pretest and posttest given to students in the experimental class and control class at the initial and final meetings. Data on learning outcomes for students in classes IVA and IVB at SD Negeri 1 Lambheu Aceh Besar are presented in Tables 1 and 2 below.

Table 1 Pretest and Posttest Results for Experimental Class

No	Name	*Pretest Value*	*Posttest Value*
1	ATZ	60	70
2	ABY	40	80
3	AAS	30	60
4	AA	40	100
5	AS	60	80
6	BAS	50	70
7	BLN	40	90
8	DTS	50	100
9	GH	40	100
10	IYP	50	60
11	IM	60	100
12	JA	40	80
13	MFR	30	90
14	MI	60	90

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15	MIP	20	80
16	MAS	60	100
17	MF	30	80
18	MGA	40	60
19	MZA	60	100
20	NA	20	70
21	NSN	40	80
22	NAA	50	100
23	NAR	60	90
24	RM	40	70
25	SY	50	90
26	SAR	40	80
27	SA	50	80
28	TMB	30	60
Total value		**1230**	**2280**
Average value		**43,9**	**81,4**

Source: Research Results

Based on research conducted in the IVB experimental class at SD Negeri 1 Lambheu, the average pretest score was 43.9, with the highest score being 60 and the lowest score being 20. Meanwhile, the average posttest score was obtained in the experimental class. amounting to 81.4 with the highest value being 100 and the lowest value obtained being 60.

Table 2 Pretest and Posttest Results for Control Class

No	Name	Pretest Value	*Posttest Value*
1	AM	50	70
2	AS	30	50
3	AAR	30	60
4	AA	50	80
5	BVI	20	50
6	CSV	40	70
7	FA	30	50
8	HA	20	60
9	JA	60	80
10	JTU	20	40
11	KA	50	60
12	LRJ	30	50
13	MFS	40	60
14	MRS	20	40
15	MA	40	60
16	MK	50	70
17	MKR	40	60
18	MKA	30	60
19	NR	20	40
20	NF	50	70
21	RMS	30	50
22	RAS	40	60
23	RRA	30	50
24	RBA	50	50

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25	SB	30	50
26	SA	20	40
Total Value		**920**	**1480**
Average value		**35,4**	**56,9**

Source: Research Results

Based on research data in the IVA control class at SD Negeri 1 Lambheu Aceh Besar, the average student pretest score was 35.4, with the highest score obtained being 60 and the lowest score obtained at 20. Meanwhile, the average posttest score for students was 56. .9 with the highest value obtained at 80 and the lowest value obtained at 40.

Research Data Analysis

Normality Test

The normality test is carried out to find out whether the sample studied is normal or not (Sugiyono, 2021) The normality test was carried out using the Test of Normality test with the decision rule α > 0.05, so it can be said that the data is normally distributed as seen in Table 3

Table 3 Normality Test Results

Class		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Learning outcomes student	Experimental Class	.125	28	.200	.936	28	.087
	Control Class	.166	26	.063	.925	26	.059

Source : *Output* SPSS 22

The basis for decision making in the Kolmogorov-Smirnov normality test is as follows:

1. If the significance (sig) based on mean is > 0.05 then the data is homogeneous.
2. If the significance (sig) based on mean is <0.05 then the data is not homogeneous.

Based on Table 3, the following results are obtained:

1. The significance (sig) of the experimental class learning results was 0.200 > 0.05
2. The significance (sig) of the control class learning results was 0.63 > 0.05

The significance results of the test result data given to the experimental class and control class were greater than 0.05. So it can be concluded that the research data is normally distributed.

Homogeneity Test

This homogeneity test is used to find out whether the two population groups are homogeneous or heterogeneous, that is, to test whether the variations in two or more distributions are the same. The data will be said to be homogeneous or heterogeneous, which can be seen in Table 4.

Table 4 Homogeneity Test Results

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Hasil Belajar	Based on Mean	.659	1	52	.421
	Based on Median	.487	1	52	.489

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	Based on Median and with adjusted df	.487	1	51.599	.489
	Based on trimmed mean	.673	1	52	.416

Source : *Ouput* SPSS 22

The basis for decision making in the homogeneity test is:

1. If the significance (sig) based on mean is > 0.05 then the data is homogeneous.
2. If the significance (sig) based on mean is <0.05 then the data is not homogeneous.

Based on Table 4, it is found that the significance value (sig) based on mean is 0.421 > 0.05, which can be concluded that the research data is homogeneous.

Hypothesis testing

Hypothesis testing is a decision making method based on statistical data analysis. Test the research hypothesis using the independent sample t-test (t-test). The research will be said to be successful if the resulting hypothesis test is α < 0.05, so Ho is rejected and Ha is accepted. Meanwhile, if the hypothesis is α > 0.05, it can be said that the research was unsuccessful or Ho was accepted and Ha was rejected. Data that can be said to be successful or not can be seen in Table 5.

Table 5 Independent Sample T-Test Results (t-test)

Sumber*: Output* SPSS 22

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Hasil Belajar	Equal variances assumed	14.873	.000	5.670	52	.000	31.009	5.469	20.034	41.984
	Equal variances not assumed			5.807	39.180	.000	31.009	5.340	20.209	41.809

Based on the hypothesis results in Table 5 which uses the independent sample t-test, it appears that the P-value is 0.000, namely <0.05. Thus Ho is rejected and Ha is accepted. Therefore, it can be concluded that there is an influence of Crossword Puzzle media on student learning outcomes in class IV Plant Body Parts material at SD Negeri 1 Lambheu Aceh Besar.

Discussion

This research was conducted to determine the effect of using Crossword Puzzle media on student learning outcomes in class IV plant body parts material at SD Negeri 1 Lambheu

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Aceh Besar. As is known, the Crossword Puzzle media is a learning medium with a rectangular shape consisting of boxes, and equipped with 2 paths, namely horizontal and descending. The learning results of class IV students at SD Negeri 1 Lambheu Aceh Besar were obtained from the results of tests given at the first meeting and meeting. fourth. The test was measured using pre-test and post-test questions, where the pre-test was carried out before the experimental and control class students were given treatment. After carrying out the pre-test, experimental class students were then given treatment in the form of Crossword Puzzle media, while control class students were given treatment in the form of conventional media. The post-test was carried out after treatment was given to experimental class and control class students.

The learning process in this research was carried out by the researcher himself who taught material on plant body parts using Crossword Puzzle media in the experimental class and in the control class who taught the material was the class teacher without using Crossword Puzzle media. The researcher carried out activities during four meetings.

At the first meeting, the researcher gave a pretest in the experimental class, the same as in the control class, after the students had finished doing the pretest, the researcher asked questions related to plant body parts, there were some students who could answer but not quite correctly, and there were also students who were still confused about what only part of the plant body. At the end of the lesson, the researcher informed the students that the researcher would teach material about plant body parts using Crossword Puzzle media and explain the steps of learning activities using Crossword Puzzle media in detail to students.

At the second meeting the researcher taught about the parts of roots and types of stems, at the beginning of the lesson the researcher first guided and gave directions to the students on how to use the Crossword Puzzle media, then the researcher instructed and asked the students one by one who was quick to respond and point their hand forward. going forward to fill in the answers to questions read by researchers in the Crossword Puzzle media which are presented through infocus. After that, the researcher divided the study group into 5 groups, and distributed student worksheets (LKPD) to each group, each group discussed together answering the questions given on the Crossword Puzzle LKPD. After that, representatives of each group filled in answers from the results of the group discussion on the LKPD Crossword Puzzle which were presented via infocus.

At the third meeting, it was continued with material about types of leaves and parts of flowers. At this meeting the researcher again instructed and asked the students one by one who responded quickly and put their hand forward to fill in the answers to the questions read by the researcher in the Crossword Puzzle media. which is displayed via infocus. After that, the researcher divided the study group into 5 groups, and distributed student worksheets (LKPD) to each group, each group discussed together answering the questions given on the Crossword Puzzle LKPD. After that, representatives of each group filled in answers from the results of the group discussion on the LKPD Crossword Puzzle which were presented via infocus. At the end of the lesson, the researcher provided reinforcement regarding the material that had been studied from the second to third meetings. The fourth meeting continued with giving posttest questions to students.

Based on the description and analysis of data from the pre-test and post-test carried out in classes IVA and IVB at SD Negeri 1 Lambheu Aceh Besar on plant body parts, it shows that

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there are differences in scores in the experimental class and the control class. Judging from the average pre-test score obtained in the experimental class, it was 43.9 and the average pre-test score obtained in the control class was 35.4. Meanwhile, in the post-test given after treatment using Crossword Puzzle media, the average score obtained in the experimental class was 81.4. The average post-test score in the control class also increased, but only 6 students met the Learning Goal Achievement Criteria (KKTP) with an average score of 56.9.

The student learning outcome data that has been collected will be analyzed using the N-gain test. Before being analyzed using the normality test, homogeneity test and t-test, the N-gain from the research data is previously calculated. N-gain is carried out to determine student learning outcomes after being given treatment. This increase was taken from the difference in the pretest and posttest scores of the experimental class and control class obtained by students.

After the data is calculated through the n-gain test, then we look for the normality test, homogeneity test, and t-test. Based on the output data that has been analyzed using SPSS 22, it is known from the results of the normality test that the sig value obtained in the experimental class was 0.200, while in the control class the sig value was obtained. At 0.063. Both classes have pre-test and post-test significance values greater than 0.05, so it can be stated that the experimental class and control class data are normally distributed.

Then, the results of the homogeneity test carried out on the two classes obtained a sig value. 0.421, where the significant value is greater than 0.05, then H0 is rejected and Ha is accepted. So it can be stated that the data from the experimental class and control class are homogeneously distributed. Once it is known that the data obtained is normally distributed and homogeneous, we will continue with hypothesis testing. The hypothesis results obtained a significant value (2-tailed) namely 0.000 where the sig value. 0.000 < 0.05. Based on the obtained sig value, the two classes can be declared H0 rejected and Ha accepted. Based on the hypothesis criteria from the independent sample t-test, it can be concluded that there are differences in student learning outcomes between the experimental class and the control class after using Crossword Puzzle media.

CONCLUSION

Based on the value of data analysis regarding the influence of Crossword Puzzle media on student learning outcomes in class IV plant body parts at SD Negeri 1 Lambheu, the data processing results showed a significance value (2-tailed) of 0.000 < 0.05. Where the decision making criteria are Ha accepted and Ho rejected. So it can be concluded that there is a significant influence of the use of Crossword Puzzle media on student learning outcomes in class IV plant body parts material at SD Negeri 1 Lambheu Aceh Besar.

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